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IS 8393 (1977): Roll Seal Pilferproof Closures [MTD 32:  
Metal Containers]

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*Indian Standard*

SPECIFICATION FOR  
ROLL SEAL PILFERPROOF CLOSURES

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**BUREAU OF INDIAN STANDARDS**  
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG  
NEW DELHI 110002

**Gr 2**

*August 1977*

*Indian Standard*

SPECIFICATION FOR  
ROLL SEAL PILFERPROOF CLOSURES

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*Indian Standard*  
 SPECIFICATION FOR  
 ROLL SEAL PILFERPROOF CLOSURES

**0. F O R E W O R D**

**0.1** This Indian Standard was adopted by the Indian Standards Institution on 28 February 1977, after the draft finalized by the Metal Containers Sectional Committee had been approved by the Marine, Cargo Movement and Packaging Division Council.

**0.2** Pilferproof closures are intended to provide to the contents in a container protection against substitution, adulteration or pilfering. Once the pilferproof cap is fixed on the package, it is ordinarily not possible to tamper with the contents of the package without destroying the special device in the closure which is intended to provide such protection.

**0.3** The roll seal aluminium closure is one of the most extensively used pilferproof closure fitted on the glass bottles, containing products, such as liquor, pharmaceuticals, chemicals, syrups and squashes. These closures have a security ring which breaks away from the cap as soon as it is unscrewed.

**0.4** The caps are supplied complete in all respects, except for the threads in the side. The liner is compressed by top pressure, which is maintained while spinning discs travel round the cap and press its threads into shape using the glass thread as a former.

**0.5** For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS:2-1960\*. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

**1. SCOPE**

**1.1** This standard prescribes the requirements for roll seal pilferproof closures suitable for glass containers with neck finish according to Table 3 of IS:7511-1975†.

\*Rules for rounding off numerical values (revised).

†Summary sheet on glass container neck finishes.

## 2. TERMINOLOGY

**2.1** For the purpose of this standard, the definitions given in IS:1394-1973\* shall apply.

## 3. REQUIREMENTS

**3.1 Dimensions** — The roll seal pilferproof closures shall have the dimensions and tolerances as specified in Table 1.

### 3.2 Material

**3.2.1** The shell shall be manufactured from aluminium sheet of thickness  $0.23 \pm 0.02$  mm conforming to 19000 or 19500 of IS:737-197 annealed condition. Aluminium sheet of higher nominal thickness may be used if required by the purchaser.

**3.2.2 Wad** — The wad may be manufactured from pulp board, faced pulp board cork, faced cork, rubber or any other suitable material. The wad thickness shall be such as to provide effective sealing. The wad diameter shall be such that it is retained by the bead on the shell when assembled. The wad or wad facing shall be compatible with the product packed and shall be non-toxic when used for containers for packing food products.

### 3.3 Manufacture

**3.3.1 Finish** — The shell shall be in new and clean condition and shall be reasonably free from all foreign matter. It may be given an internal protective coating and an external protective/decorative coating.

**3.3.2** The skirt of the shell shall be so manufactured (usually by perforation) that on opening the assembled closure, a ring of metal shall part from the main body of the shell.

### 3.4 Assembly

**3.4.1** The wad shall be assembled to the shell and retained by a bead.

**3.4.2** The shell with the wad shall be assembled on to the container neck by roll sealing and crimping.

## 4. SAMPLING AND TESTING

**4.1** The samples of pilferproof closures and glass containers sealed with pilferproof closures for carrying out the tests specified in 4.2 and 4.3 respectively, shall be drawn in accordance with IS:6941-1973‡.

**4.2** The samples of the pilferproof closures shall be tested for dimensions given in Table 1.

\*Glossary of terms relating to metal containers trade ( second revision ).

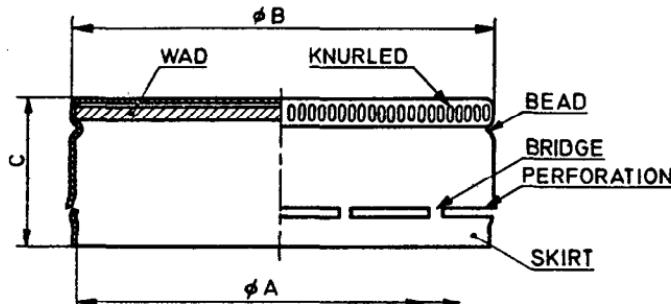
†Specification for wrought aluminium and aluminium alloys, sheet and strip ( for general engineering purposes ) ( second revision ).

‡Methods of sampling metal closures.

TABLE 1 DIMENSIONS FOR ROLL SEAL PILFERPROOF CLOSURES

( *Clauses 3.1 and 4.2* )

All dimensions in millimetres.



5

SL No.	TYPE	NOM SIZE (3)	A		B		C	
			Max (4)	Min (5)	Max (6)	Min (7)	Max (8)	Min (9)
i)	Standard	22	22.5	22.1	22.9	22.5	15.5	14.7
ii)		25	25.5	25.1	26.1	25.7	16.9	16.1
iii)		28	28.4	28.0	28.8	28.4	18.3	17.5
iv)		31.5	31.5	31.1	31.9	31.5	18.3	17.5
v)		53	53.8	53.3	54.3	53.8	18.7	17.9
vi)		70	70.5	70.0	71.0	70.5	18.1	17.3
vii)	Shallow	38	38.5	38.0	39.0	38.5	16.5	15.7
viii)		46	46.2	45.7	46.7	46.2	16.6	15.8
ix)	Deep	31.5	31.5	31.1	31.9	31.5	24.3	23.5
x)	Extra deep	30	29.6	29.2	30.0	29.6	34.9	34.1

4.3 The samples of the glass containers sealed with the pilferproof closures shall be tested with the help of the torque tester shown in Fig. 1. The maximum opening torque for efficiently sealed closures shall be in accordance with Table 2.

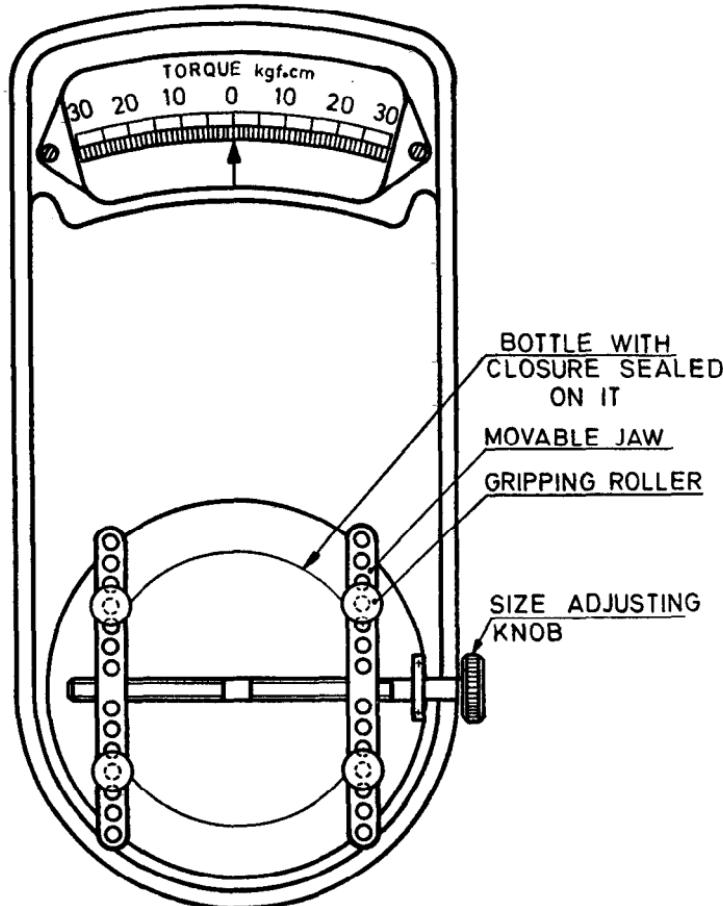


FIG. 1 TORQUE TESTER

## 5. MARKING

5.1 The manufacturer's name, initials or recognised trade-mark shall be clearly and indelibly marked on the shell, if so required by the purchaser.

**TABLE 2 OPENING TORQUE VALUES FOR PILFERPROOF CLOSURES**

( Clause 4.3 )

SIZE OF CLOSURE (1) mm	TYPE (2)	MAXIMUM OPENING TORQUE (3) N.cm
22	Standard	110
25		125
28		140
31.5		160
53		250
70		290
38	Shallow	185
46		230
31.5	Deep	160
30	Extra deep	150

**5.1.1** The closures may also be marked with the Standard Mark.

**5.2** The use of the Standard Mark is governed by the provisions of *Bureau of Indian Standards Act, 1986* and the Rules and Regulations made thereunder. The details of conditions under which the licence for the use of Standard Mark may be granted to manufacturers or producers may be obtained from the Bureau of Indian Standards.

(Continued from page 2)

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Manak Bhavan, 9 Bahadur Shah Zafar Marg, NEW DELHI 110002  
Telephones: 323 0131, 323 3375, 323 9402  
Fax : 91 11 3234062, 91 11 3239399, 91 11 3239382

Telegrams : Manaksantha  
(Common to all Offices)

## **Central Laboratory:**

Plot No. 20/9, Site IV, Sahibabad Industrial Area, SAHIBABAD 201010      Telephone 8-77 00 32

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NIT Building, Second Floor, Gokulpat Market, NAGPUR 440010	52 51 71
Institution of Engineers ( India ) Building, 1332 Shivaji Nagar, PUNE 411005	32 36 35

\*Sales Office is at 5 Chowringhee Approach, P. O. Princep Street, CALCUTTA 700072      27 10 85

†Sales Office is at Novelty Chambers, Grant Road, MUMBAI 400007      309 65 28

‡Sales Office is at 'F' Block, Unity Building, Narashimaraja Square, BANGALORE 560002      222 39 71

**AMENDMENT NO. 1**

**MARCH 1979**

**TO**

**IS : 8393 - 1977 SPECIFICATION FOR ROLL  
SEAL PILFERPROOF CLOSURES**

**Alteration**

(*Page 4, clause 3.2.1*) — Substitute the following for the existing clause:

**‘3.2.1 The shell shall be manufactured from aluminium sheet conforming to designation 40800 or 31000 of IS : 737 - 1974† and shall be in H<sub>2</sub> or H<sub>3</sub> hardness. The thickness of the various sizes of aluminium sheet shall be as under:**

For closures up to and including 0·20±0·02 mm  
28 mm size

For closures above 28 mm size 0·23±0·02 mm

**Aluminium sheets of higher nominal thickness may be used if required by the purchaser.’**

( MCPD 12 )